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component is twice that of the Sun. It therefore follows that the secondary star is 500,000 times as dense as the primary. This is a most surprising result. Are we justified in assigning to it even a fair degree of probability?

As to luminosity and diameter, the principal star is a giant and the secondary star is at least relatively a dwarf; but as to mass they are average stars. Have we any reason to doubt that in years the two stars composing the system of *Sirius* are identically of the same age? Their spectra are of Class A. What has been their evolutionary history to date? Did they begin their stellar lives as Class B stars, and have they traveled along parallel courses of development to Class A stars? Following another hypothesis, did they begin their stellar lives as Class M stars? Have their evolutionary processes travelled along parallel lines and with equal speeds to the Class A stage, where we now find them, or has the giant primary star traveled in one direction from Class M to Class A, whereas the dwarf companion has traveled from Class M in one direction to Class B, and thence in the reverse direction to Class A? If we grant that the primary star is only 1/500,000 as dense as the secondary, which the assumption outlined at the beginning of this note absolutely requires, either one of the evolutionary progressions which begins with Class M involves an extreme of improbability.

Is the assumption of direct relationship between spectral type and radiating efficiency a reliable one? The purpose of this note is merely to raise the question. W. W. Campbell.

Note on the Hα Line in the Spectrum of T Pyxidis

Photographs with the 10-inch Cooke telescope and a 15° objective prism made on April 21, 22, 23, 24, 25 and 26, 1920, have shown a very strong bright Hα line in the spectrum of T *Pyxidis*. The line stands out strongly by itself, being so bright that intense images were obtained in thirty minutes' exposure time. In spite of the low dispersion (approximately 440 angstroms per millimeter at Hα) the continuous spectrum in the red is very weak. Seed 23 plates stained with pinacyanol were used.

In the ultra-violet the dark components of the hydrogen lines are much stronger relative to the bright components than at Hβ and Hγ.

May 6, 1920. Milton L. Humason.